

Natural Sciences NTSC 10200 -- Spring 2004

Rocky Kolb

Syllabus

Part I – The Solar System

Readings: Kolb, Chapters 1-5

Labs: April 5 – April 9 Moons of Jupiter (week one)
 April 12 – April 16 Moons of Jupiter (week two)
 April 19 – April 23 Temperature of the Universe (week one)
 April 26 – April 30 Temperature of the Universe (week two)

Lectures: March 30: Introduction to Nat Sci 102, introduction to cosmology, introduction to the universe, introduction to Hyde Park, and a look at the sky.

 April 1: Greek astronomy through Ptolemy. Retrograde motion, epicycles, the Greek universe.

 April 6: Copernicus: The heliocentric universe.

 April 8: Brahe: Measuring the sky.

 April 13: Kepler: The laws of planetary motion.

 April 15: Galileo: The tribulations and trial.

 April 20: Newton: The clockwork universe.

 April 22 Exam.

Part II – Galaxies and the Universe

Readings: Kolb, Chapters 6-11
Hogan

Labs:	May 3 – May 7	Geometry of the Universe (week one)
	May 10 – May 14	Geometry of the Universe (week two)
	May 17 – May 21	Expansion rate & density of the Universe (week 1)
	May 24 – May 28	Expansion rate & density of the Universe (week 2)

Lectures:	April 27:	Nebulae.
	April 29:	The distance scale.
	May 4:	Galaxies and large-scale structure.
	May 6:	The expanding universe.
	May 11:	The hot universe.
	May 13:	The big bang I.
	May 18:	The big bang II.
	May 20:	Inflation.
	May 25:	Exam.

Part III – The Megaverse

Readings: Hawking

Lectures:	May 27:	The Quantum and the Cosmos.
	June 1:	Imaginary time/Before the big bang.
	??????	FINAL EXAM (???????)